

1441 Identification and use of molecular markers for Genetic Male Sterility in cotton (*Gossypium hirsutum* L.)

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India continues to be the lead country both in commercial production and cultivation of hybrid cotton. Seed production traditionally, is carried out by expensive hand emasculation and pollination techniques, with resultant higher seed costs. Marker assisted selection with genetic male sterility system, overcoming these problems, offers clear advantages. GMS system is preferred in cotton, which has no known consequent yield reduction, as is experienced with the CMS systems.

In the present investigation, using the *ms5 ms6* source, RAPD system has been employed to identify suitable molecular markers for genetic male sterility in selected superior *G. hirsutum* L. breeding lines. For this purpose, a set of 340 primers have been screened for polymorphism. In the initial results, OPB4, OPC5, OPE17, OPG7, OPL2, OPF2, OPK20, OPL-16, OPL9, OPM7, OPL-19 have been identified as polymorphic. The primer OPL19 has shown high and consistent reproducibility, marked with the presence of the ~500bp polymorphic amplicon detected in the sterile plant. The results have been correlated with the phenotypes of individual plants by visual inspection, as well as via pollen staining.